

APR 05 2007

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**Honeywell Case No. H0002744**  
**(MBHB Ref. No. 06-323)**

In the Application of:

Edgar R. Mallison and Tom G. Stratton

Serial No.: 10/693,357

Filing Date: October 24, 2003

For: Well Control and Monitoring System  
Using High Temperature Electronics

)  
 )  
 ) Examiner: Hung Q. Dang  
 )  
 ) Group Art Unit: 2612  
 )  
 ) Confirmation No: 2592  
 )

**DECLARATION PURSUANT TO 37 C.F.R. § 1.131**

We, Edgar R. Mallison, residing at 15808 Post Road, Wayzata, Minnesota 55391, and Tom G. Stratton, residing at 3000 Sandy Hook Drive, Roseville, Minnesota 55113, hereby declare:

1. We are the named inventors on U.S. Patent Application Serial No. 10/693,357, filed on October 24, 2003.

2. The invention disclosed and claimed in the instant patent application was conceived in the United States by us before July 25, 2003.

3. Accompanying this Declaration is a photocopy of an Invention Record (eleven (11) pages) showing conception of our invention before July 25, 2003. Specifically, the photocopies show that the Well Control and Monitoring System Using High Temperature Electronics of the present application was conceived by us before July 25, 2003.

4. The dates on the Invention Record have been redacted from the photocopies. However, the dates are before July 25, 2003, the priority date of U.S. Patent Publication No. 2005/0016770.

5. I hereby declare further that all statements made herein to my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so

made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

We, Edgar R. Mallison and Tom G. Stratton, declare under penalty of perjury that the foregoing is true and correct.

Dated: \_\_\_\_\_

Signed: \_\_\_\_\_  
Edgar R. Mallison

Dated: 4/5/07

Signed:   
Tom G. Stratton

APR 05 2007

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
Honeywell Case No. H0002744  
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|   |   |                        |
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| In the Application of:                  | ) |                        |
|   | ) |                        |
| Edgar R. Mallison and Tom G. Stratton   | ) | Examiner: Hung Q. Dang |
| Serial No.: 10/693,357                  | ) |                        |
|   | ) | Group Art Unit: 2612   |
| Filing Date: October 24, 2003           | ) |                        |
|   | ) | Confirmation No: 2592  |
| For: Well Control and Monitoring System | ) |                        |
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5. I hereby declare further that all statements made herein to my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so

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We, Edgar R. Mallison and Tom G. Stratton, declare under penalty of perjury that the foregoing is true and correct.

Dated: April 3, 2007

Signed: Edgar R. Mallison  
Edgar R. Mallison

Dated: \_\_\_\_\_

Signed: \_\_\_\_\_  
Tom G. Stratton

# EXHIBIT A

# Honeywell DAS-Teterboro: On-Line Invention Disclosure System

## ATTORNEY-CLIENT PRIVILEGED

Invention Record (Docket) No.: **H0002744**      Origin Date:      SBE: B10 - Plymouth, MN - SOLID STATE ELECT CTR

File Location: MI - Minneapolis, MN

Attorney(s): Fredrick, Kris T

Title: High Temperature Electronics

Inventor: Stratton, Thomas G  
 Address: 3000 Sandy Hook Dr., Roseville, MN 55113  
 Phone: 763-954-2824 Fax: 763-954-2824  
 Citizenship: US

SSN: \*\*\*\*\*

County: Ramsey

Supervisor: Brian Link

Inventor: Goetz, Jay R  
 Address: 19610 Cottagewood Rd, Deephaven, MN 55331  
 Phone: 612-954-2520 Fax: 612-954-2313  
 Citizenship: USA

SSN: \*\*\*\*\*

County: Hennepin

Supervisor: Brian Link

Inventor: Mattison, Edgar R

Address: 15808 Post Road, Wayzata, MN 55391

Phone: 763-954-2457 Fax: 763-954-2764

Citizenship: U.S.A.

SSN: \*\*\*\*\*

County: Hennepin

Supervisor: Brian Link

1. Briefly describe the technical or commercial problem or need that this invention is intended to solve.  
 See Paper Disclosure B10-26470

2. Briefly describe how this invention solves the problem or meets the need.  
 See Paper Disclosure B10-26470

3. Describe how to make and use the invention. Please indicate which embodiment(s) are preferred and describe the best way known to you to practice the invention. Attach relevant documents. (If the invention is a device or process, please provide a drawing or flow chart.) (If you are unfamiliar with the contents and preparation of a patent application, please refer to the Guidelines for the Preparation of Invention Disclosures.  
 See Paper Disclosure B10-26470  
 Document(s):

4(a). To the best of your recollection what is the earliest date on which the invention was conceived? Who conceived the invention? Attach documents which evidence the foregoing.

Conception Date: Who conceived it?: See Paper Disclosure B10-26470  
Document(s):

4(b). Is there a non-inventor who witnessed the conception? If so, please identify him/her and attach any documents which evidence the witnessing.

Witness Name: See Paper Disclosure B10-26470 Witness Phone:

5(a). To the best of your recollection, what is the earliest date on which the invention was reduced to practice (i.e. made)? Who reduced the invention to practice. Attach documents which evidence the foregoing. If no reduction to practice, type "n/a".  
First Practice Date: Who reduced it to practice?: See Paper Disclosure B10-26470

5(b). Is there a non-inventor who corroborated the reduction to practice? If so, please identify him/her, the corroborating activity (i.e., over-the-shoulder corroboration or repeating the experiment), and the date of the activity. Attach documents which evidence the foregoing.

Non-inventor corroborator?: First Corroborator Name: First Corroborator Phone:  
See Paper Disclosure B10-26470

First Practice Corroborator Activity:  
Corroboration Date: See Paper Disclosure B10-26470

Document(s) related to corroboration event:

5(c). For each example of the invention and each comparative example on which you intend to rely in the patent application, please indicate when the example was generated, who conducted the experiment and where this example is recorded (e.g., volume, page and author or laboratory notebook) and attach a copy of these records. If no example available, type "n/a".

Example(s):  
Who conducted the experiment?: See Paper Disclosure B10-26470  
Where is example recorded?: See Paper Disclosure B10-26470

6(a). Did this invention arise in a program that is funded in whole or part by the U.S. Government or another company, or any entity other than Honeywell?  
No

6(b). If so, please identify the program (including government contract number, if applicable) and the entity sponsoring the program and provide a copy of any agreement between the parties concerning the program.

Outside Funding Program: See Paper Disclosure B10-26470  
Contract Number (if applicable): See Paper Disclosure B10-26470  
Outside Funding Entity: See Paper Disclosure B10-26470  
Document(s) related to funding agreement:

7(a). To your knowledge, is this invention subject to any agreement between Honeywell and a third party (e.g., a secrecy agreement, license agreement, joint development agreement, etc.)?

7(b). If so, please identify the agreement and the other party and attach a copy of the agreement if one is available.  
Third party agreement ID: See Paper Disclosure B10-26470  
Third party name: See Paper Disclosure B10-26470  
Document(s) related to any third party agreement:

8. You have a duty to disclose to the U.S. Patent and Trademark Office all relevant prior art of which you are aware. Please list all such prior art (e.g., patents, publications, brochures, Honeywell and third-party products) known to you. If a prior art search has been conducted, it must be included. Briefly indicate how this invention is different from the prior art. See 1 and 2 above.

List of prior art:

See Paper Disclosure B10-26470

How invention is different from the prior art:

See Paper Disclosure B10-26470

9(a). Has the product or process which is the subject of this invention disclosure been disclosed, sold or offered for sale to anyone outside of Honeywell or to the general public.

9(b). If so, when and to whom was it disclosed, sold or offered for sale? If it was disclosed, was a secrecy agreement in place? Attach documents which evidence the sale or offer for sale.

Date it was disclosed:

Whom disclosed to: See Paper Disclosure B10-26470

Disclosure Sales Agreement?:

Document(s) which evidence the sale or offer for sale:



10(a). Does this invention relate to any other: (i) issued patents, (ii) pending patent applications, or (iii) previously submitted invention disclosures, of Honeywell?

10(b). If so, please identify the related matter and indicate whether this is an improvement on an earlier invention:  
Other patents related matter is:  
See Paper Disclosure B10-26470  
Is this an improvement?:

11. Please specify the product(s) to which this invention disclosure relates.  
See Paper Disclosure B10-26470

12. Please indicate keywords for identifying this invention disclosure.  
See Paper Disclosure B10-26470

Witness  
Name:

\_\_\_\_\_

Inventor  
Name:

\_\_\_\_\_

Witness  
Signature:

\_\_\_\_\_

Inventor  
Signature:

\_\_\_\_\_

Date:

\_\_\_\_\_

Date:

\_\_\_\_\_

Inventor  
Name:

\_\_\_\_\_

Inventor  
Name:

\_\_\_\_\_

Inventor  
Signature:

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Inventor  
Signature:

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Date:

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Date:

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Inventor  
Name:

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Inventor  
Name:

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Inventor  
Signature:

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Inventor  
Signature:

\_\_\_\_\_

Date:

\_\_\_\_\_

Date:

\_\_\_\_\_

Honeywell DAS-Teterboro: On-Line Invention Disclosure System

Inventor  
Name: \_\_\_\_\_

Inventor  
Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Send to:

Kris T Fredrick

*The attorney assigned to this disclosure.*

Inventor  
Name: \_\_\_\_\_

Inventor  
Signature: \_\_\_\_\_

Date: \_\_\_\_\_

# Honeywell Invention Disclosure Form

RECEIVED  
CENTRAL FAX CENTER

APR 05 2007

HONEYWELL CONFIDENTIAL AND PROPRIETARY

OGC Use Only  
# No.: 55641-310-26470  
Atty. assigned to: Fredrick

OGC Date Rec'd

I.D. No: SS-

- Instructions: (Please print or type)
1. Complete the general information box immediately below. Be sure to complete fully the
  2. Complete numbered sections 1 through 6 to the best of your knowledge. Be sure to complete fully the inventor signature/information section, and witness signature section (sections 5 & 6) on the second page of this form.
  3. Send the original of the completed form to the IP Department c/o the appropriate attorney, using the names & addresses listed on the second page of this form.
  4. Each page of any attached section must be dated and signed by the person completing that section, and two witnesses.

Descriptive Title: Wireless And Self Powered Sensing And Monitoring Device For Prognostic, Health and/or Measurement Taking

Account No./Cost Center: \_\_\_\_\_ Honeywell Business Unit (see back): SSEC, High Temp

Product invention is or will be associated with, if any: Production Oil Wells

Countries where invention is likely to be sold/manufactured: All Over The World

1. Describe the invention: Attach a sheet or sheets describing what you feel is the best implementation of your invention, and possible variations. The description should be detailed enough to teach a person knowledgeable in your area of technology how to both: (1) make the invention, and (2) use the invention. For mechanical and electrical inventions, drawings accompanying your written description are strongly recommended.

2. Provide a background for the invention: Attach a separate sheet briefly describing:
  - The problem which you feel the invention overcomes.
  - Ways in which others have attempted to solve this problem. Identify specific written descriptions/devices, if any.
  - The problems with previous solutions to the problem.
  - How the invention overcomes the problems of the previous solutions.
  - Potential uses of the invention outside your area of application.

3. Invention dates & public disclosure dates: Provide the date of each event, and the appropriate document or location associated with each event:

What is the earliest written record of your invention. In what document may this record be found?

Date: \_\_\_\_\_ Document (attach copy): Wrote something up but would have to find it.

Has a working version of the invention been built? If so, when and where was it completed? Yes: \_\_\_\_\_ No: X

Date: \_\_\_\_\_ Location: \_\_\_\_\_  
Has the invention been shown or described outside Honeywell without a nondisclosure agreement? Yes: \_\_\_\_\_ No: X

Date: \_\_\_\_\_ Location: \_\_\_\_\_  
Has the invention appeared in any published paper or document or specification? Yes: \_\_\_\_\_ No: X

Date: \_\_\_\_\_ Document (attach copy): \_\_\_\_\_  
Is the invention part of a development proposal, been offered for sale, or delivered to a customer or customers (including samples)? Yes: \_\_\_\_\_ No: X

Date: \_\_\_\_\_ Location: \_\_\_\_\_  
Are there any plans to show or publish the invention? Yes: X No: \_\_\_\_\_

Date: \_\_\_\_\_ Location: If funded by SEEDS Initiative

## 4. Government or Customer Project Reporting Information

Is the invention part of a Government or customer contract requiring reporting? (Customer should be omitted, if secret).

Yes: \_\_\_\_\_ No: \_\_\_\_\_

Contract No.: \_\_\_\_\_ Customer: \_\_\_\_\_

# Honeywell

## Invention Disclosure Form

HONEYWELL CONFIDENTIAL AND PROPRIETARY

For OGC Use Only  
 File No.: 55641  
 Atty. assigned to:

OGC Date Rec'd

5. Inventor Information (Use an attached sheet if there are more than three inventors. Reminder: Each inventor must also sign any attached sheets).

|  |                   |                         |                      |
|--|-------------------|-------------------------|----------------------|
| Mr./Ms./Mrs./Dr.                                 | Jay R. Goetz      | Signature               | Date                 |
| Inventor's Full Legal Name (first, middle, last) |                   |                         |                      |
| Work Phone:                                      | Mail Station:     | Country of Citizenship: | Social Security No.: |
| Home Phone:                                      |                   | Supervisor's Name:      |                      |
| Fax:   |                   |                         |                      |
| 19610 Cottagewood Rd.                            | Deephaven         | Hennepin                | MN 55331             |
| Street Address                                   | City              | County (Required)       | State Zip Code       |
| Mr./Ms./Mrs./Dr.                                 | Edgar R. Mallison | Signature               | Date                 |
| Inventor's Full Legal Name (first, middle, last) |                   |                         |                      |
| Work Phone:                                      | Mail Station:     | Country of Citizenship: | Social Security No.: |
| Home Phone:                                      |                   | Supervisor's Name:      |                      |
| Fax:   |                   |                         |                      |
| 15808 Post Road                                  | Wayzata           | Hennepin                | MN 55391             |
| Street Address                                   | City              | County (Required)       | State Zip Code       |
| Mr./Ms./Mrs./Dr.                                 | Thomas G. Straton | Signature               | Date                 |
| Inventor's Full Legal Name (first, middle, last) |                   |                         |                      |
| Work Phone:                                      | Mail Station:     | Country of Citizenship: | Social Security No.: |
| Home Phone:                                      |                   | Supervisor's Name:      |                      |
| Fax:   |                   |                         |                      |
| 3000 Sandy Hook Drive                            | Roseville         | Ramsey                  | MN 55113             |
| Street Address                                   | City              | County (Required)       | State Zip Code       |

Disclosure form prepared by: Edgar Mallison

6. Witnesses (Two witnesses must read and understand the invention, as submitted. Each witness should sign and date this page in the space below, and then sign and date each attached sheet.)

|               |            |       |
|---------------|------------|-------|
| Witness Name: | Signature: | Date: |
| Witness Name: | Signature: | Date: |

For copies of this form, and other valuable IP information, see our web page at: <http://web.honeywell.com/ogc/ip.htm>

|  |  |  |
|--|--|--|
| <b>Business Units/IP Attorneys</b>             | <b>SPACE AND AVIATION CONTROL</b>                      | <b>CORPORATE (CORP)</b>                  |
| <b>HOME AND BUILDING CONTROL</b>               | Commercial Aviation Systems-Sensor                     | Solid State Electronics Center (SSEC)    |
| Rob Leonard MN12-8251                          | Products Operation (CAS-SPO)                           | Greg Bruns MN12-8251                     |
| Chuck Rubow MN10-2480                          | Chuck Ungemach MN12-8251                               | <b>Honeywell Technology Center (HTC)</b> |
| Ed Schwarz MN10-2480                           | <b>Sensor and Guidance Products (SGP)</b>              | Ian MacKinnon MN12-8251                  |
| <b>Duracraft (Consumer Products)</b>           | Al Kau MN17-3900                                       | John Shudy MN12-8251                     |
| Loletta Darden MA04                            | <b>Space and Satellite Systems Operations (SASSO)</b>  | <b>INTERNATIONAL CONTROLS (IC)</b>       |
| <b>SENSING AND CONTROL (S&amp;C)</b>           | Robert Greenstien FL51-216-1                           | Honeywell Canada                         |
| (Microswitch, etc.)                            | <b>Air Transport Systems (ATS)</b>                     | Rob Leonard MN12-8251                    |
| Roland Norris IL50-B2-868                      | Ken Johnson AZ75-2039B4                                | <b>ALL OTHERS</b>                        |
| <b>INDUSTRIAL AUTOMATION AND CONTROL (IAC)</b> | <b>Business &amp; Commuter Aviation Systems (BCAS)</b> | Tony Ebert MN12-8251                     |
| Industrial Systems Group (ISG)                 | Brian Downs AZ77-AVF21B5                               |  |
| Tony Miologos AZ15-1E20                        | <b>Defense Avionics Systems (DAS)</b>                  |  |
| <b>Measurements and Controls</b>               | Andrew Abeyta NM75-C10                                 |  |
| Tony Miologos AZ15-1E20                        | <b>Central Technical Operations (CTO)</b>              |  |
| <b>Measurix</b>                                | Brett Carlson AZ75-2039B4                              |  |
| Holly Albert CA35                              |  |  |

Questions? Contact the appropriate IP attorney for your business unit.

## Problem Invention Overcomes:

- Non Volatile Memory Doesn't Exist Above 200C
- Very Costly To Wire Retrieve A Remote Unit Down In A Pipe
- Non Evasive Deployment (Put Inside Pipe)
- Provides Real Time Data To User And Can Store Data
- Is Solution To Taking Measurements In A Pipe Without Modifying Pipe To Connect To External World
- Is Solution To Intelligent Completion Of Production Wells
- Wireless Communicator
- "Multiple Sensing" Multiple Types And Quantities Of Sensors Using Same Data Processing Electronics
- Attached Power Generating Source
- Functions In High Temperature Environments

## Ways Others Have Attempted:

- **Battery Storage Of Data And Then Pull It Up To Get Data**
- **There Is No Other Supplier That Offers A Complete Solution To Intelligent Completion Of Production Oil Wells Or Non Evasive Implementation Of Pipe Flow Characteristics And Health Monitoring Of System**

# Honeywell

## Invention Disclosure

### 2. Provide A Background For The Invention:

#### Problem With Previous Solution:

- Not Wireless
- Not Real Time
- Not Transmittable To Central Oil Field Control Station Miles Away
- Not Cost Effective
- Not Positioned In Pipe And Forget
- Not High Temperature
- Not Long Life

#### How Invention Overcome Previous Solution:

- Wireless
- Real Time Data
- No Batteries Required
- No Stopping Oil Production To Take Readings
- Communicate To Central Oil Field Production Control Station 100 Miles Away
- Generate Its Own Power

Solid State Electronics Center

Honeywell Proprietary

E.Mallison

**Honeywell**

## ***Invention Disclosure***

### **2. Provide A Background For The Invention:**

#### **Potential Uses Of Inventions Outside Oil Fields:**

- **Chemical Plants**
- **Oil Refineries**
- **Water Main And Aqueducts Such As Large City Suppliers**

**Solid State Electronics Center****Honeywell Proprietary****E.Mallison**

• SENSORS, LOCATION SEVERAL  
FEET APART FROM EACH OTHER  
OR

THOUSANDS  
OF MILES AWAY FROM  
OIL PRODUCTION WELL

CONDUIT TO SENSOR  
SENSING POINTS

SENSORS

PIEZOS  
TRANSMIT +  
RECEIVE

MAIN SENSOR HOUSING

SENSORS DATA PROCESSING, FIRMWARE  
DATA STORAGE & MICROPROCESSOR  
SEGMENTS.

HOUSING POWER CONTROLLING  
SEGMENTS

POWER GENERATOR

PIEZOS  
TRANSMIT +  
RECEIVE

MAIN HOUSING  
MONITOR

BEST AVAILABLE COPY